Money, Inflation, and Recessions

ECON8069 - Lecture 11

Australian National University

- Money
- Inflation
- Short-Run Fluctuations

Textbook: Chapters 25 and 26

Money

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Anything with these properties can be ‘money’

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- Fiat Money is when something is accepted as money, but is not backed by any physical commodity
  - Australian dollars, any other national currency
  - Cryto-currencies (e.g. Bitcoin) might be best thought of as a kind of fiat money, though there is some debate over this

Central Banks

- A **Central Bank** is an institution designed to oversee the banking system, money system, and financial conditions of the economy
- In the modern era, this is usually a public entity which is separate from the government
- In Australia we have the Reserve Bank of Australia (RBA)
  - Formulates and administers monetary policy
  - Maintains financial stability, including stability of the payments system
  - Recent News - setting of interest rates will be devolved to a specific Monetary Policy Board within the RBA

Fractional Reserve Banking

- The money supply is affected by the amount deposited in banks, and the amount banks loan out
- Deposits are both an asset (the money) and a liability (the bank 'owes' the money to the depositor)
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- Banks take in money deposits, and then give that money back out as loans

Fractional Reserve Banking

- **Reserves** are deposits that banks have received but not yet loaned out
- In a **fractional-reserve** system the bank must hold a fraction of its deposits as reserves (and chooses to lend the rest)
- The **reserve ratio** is the fraction of deposits that are reserves

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- There's now \$190 in the economy: \$100 is Ann's bank account, an \$90 in Bob's
- The bank reserves \$9, lends out \$81 to Chingyin
- There's now \$271 in the economy

Money Creation

- When one bank loans out money, this becomes deposits to another bank
- This creates more deposits, which becomes more loans, which ...
- The process does not continue to infinity. The **Money Multiplier** is the reciprocal of the reserve ratio

$$M = 1/R$$

- e.g. With a reserve ratio of 5%, there is a multiplier of 20 times

Monetary Policy

There are two broad ways the central bank can choose between to influence the money market

1. Fix the amount of currency
    - Any currency backed by a commodity naturally has a fixed level of currency
2. Fix the 'price' of currency (the interest rate)
    - Only available for fiat currencies
    - (Opinion): No substantial downsides, fairly easy to implement
    - What is actually used in Australia, and most places
    - Relatively new, being implemented in the late 80's, early 90's

Open-market Operations

The main way the RBA targets the interest rate (or cash rate) is through open-market operations

- This is the buying and selling of government securities
- The government buys (and sells) as many securities as needed at the target cash rate
- The target rate thus serves as both a price ceiling and price floor for the interest rate

Cash Rate - Historical

Source: RBA

Monetary Policy

Changes in the cash rate is the main mechanism of the RBA to effect the broader economy

- If the economy is growing too fast, the RBA can increase the cash rate
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- Similarly if the economy is growing too slowly

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So inflation is caused by Money Supply increasing faster than real GDP

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- Positive Consequences:
  - Creates government revenue
  - Can help solve the 'downward wage rigidity problem'

The Classical Dichotomy

- Economic variables can be divided into:
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  - Real Variables - those measured in constant units
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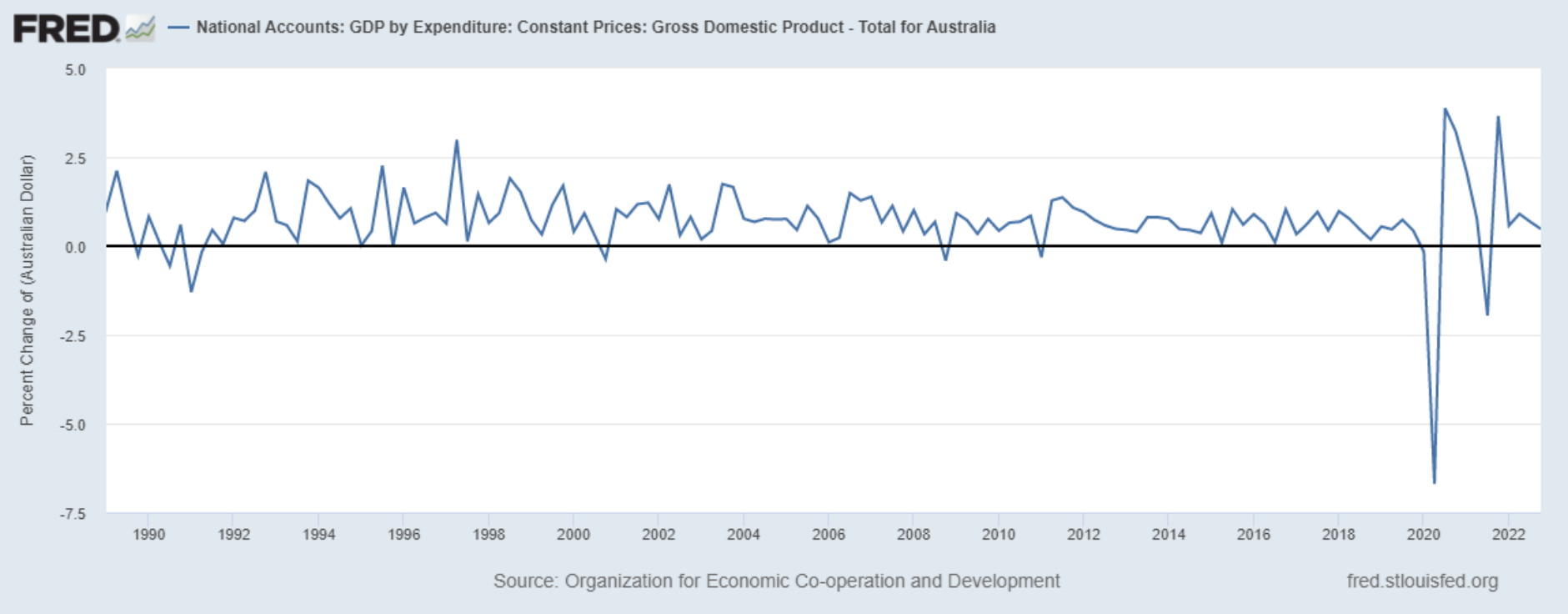
- Can also be called **monetary neutrality**.
- Tends to be false in the short run, and true in the long run.

Short-run Fluctuations

- Economic growth is rarely a steady rate per year
- Short-run changes in the growth rate of (real) GDP are called *economic fluctuations* or *business cycles*
- **Recessions** are when real GDP falls (for 2 consecutive quarters)
- Economic expansions occur between recessions

Real GDP growth rate Australia - $ change per quarter



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1. Co-movement of many aggregate macroeconomic variables
    - E.g. Consumption and Investment tend to move together
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   - Hard to tell how long it will last
3. Persistence in the rate of economic growth

Why do Recessions Occur?

A few potential explanations for why recessions occur have been proposed:

- Keynesian theory
- Real business cycle (RBC) theory
- Monetarist theory

Recessions in Keynesian theory

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- All this leads to a fall in real GDP

A small shock has lead to cascading pessimism, thus a large effect on GDP

Recessions in RBC Theory

- RBC theory says that technological progress leads to increasing marginal product of labour
- This increases demand for labour - employment and wages both increase
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- This increases demand for labour - employment and wages both increase
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- All this increases GDP
- Recessions are trickier to explain - need a fall in technology
  - Oil price increases (e.g. 1970's) could be described as a fall in technology

Modelling Recessions - Labour Market and the Production Function

- Suppose a shock reduces the Demand for Labour - this leads to less employment (see Labour Market)

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- Downward Wage Rigidity (from last week) can make this process much much worse

Multipliers

- According to the Keynesian models, there are feedback loops, or multipliers, which make the fall in Labour Demand even worse
- The initial fall in demand results in lower output, which (ultimately) further reduces demand for labour
- This is made even worse (again) if there are rigid wages

Short-run, Medium-run and Long-run

- Short-run is a few quarters
  - This is our analysis so far
- Medium-run is 2-3 years
  - Things start to correct due to market forces, and government policies
- Long-run is 10+ years
  - There are no 'fluctuations' in the long run. Only Solow-style steady states

Medium Run - Government Policies

- *Monetary Policy*: Lower interest rates
  - Lower real interest rates encourages investment
  - More capital increases the marginal product of labour, so increases labour demand
  - At the same time, lower interest rates encourage inflation; may effect Labour Supply

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- *Fiscal Policy*: Tax and Spend
  - Automatic stabilisers begin to work, increasing demand for goods, and thus demand for labour to make those goods
  - Government may also cut taxes/increase spending independent of the automatic stabilisers

Medium Run - Market Forces

- As the banking system recovers, businesses have access to credit, so capital demand, and thus labour demand, increases
- Technological development leads to increased labour demand
- Inventories become empty, so firms need to re-start production

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- In most cases, downward wage rigidity will still be binding
- If inflation was sufficiently large, the Labour Supply may have increased enough that the downward wage rigidity will be non-binding